

Amendments to the Claims:

Cancel claims 19-34 and 37-39 without prejudice.

Listing of claims:

Claims 1-18, 35, and 36 (original).

Claims 19-34 and 37-39 (cancelled).

Text of pending claims

1. (Original) A self-cleaning colloidal slurry composition for superfinishing a surface of a substrate, the self-cleaning colloidal slurry composition comprising:

a carrying fluid;

colloidal particles;

metal etchant for etching the substrate;

a surfactant adsorbed and/or precipitated onto a surface of at least one of the substrate and the colloidal particles, the surfactant having a hydrophobic section that forms a steric hindrance barrier between the substrate and the colloidal particles.

2. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the substrate is selected from a group consisting of a glass disk substrate, a ceramic disk substrate, and a glass-ceramic disk substrate for use in a data storage device.

3. (Original) The self-cleaning colloidal slurry composition as recited in claim 2, wherein the substrate is a silicate-based glass disk substrate.

4. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the colloidal particles include colloidal silica particles, the surfactant is a nonionic surfactant and/or cationic, and the self-cleaning colloidal slurry composition has a pH of approximately 0 to 4.

5. (Original) The self-cleaning colloidal slurry composition as recited in claim 4, wherein the self-cleaning colloidal slurry composition has a pH of approximately 0.8 to 3.0.

6. (Original) The self-cleaning colloidal slurry composition as recited in claim 5, wherein the self-cleaning colloidal slurry composition has a pH of approximately 1.0 to 2.0.

7. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the colloidal particles include colloidal silica particles, the surfactant is a cationic quaternary amine surfactant, and the self-cleaning colloidal slurry composition has a pH of approximately 7 to 12.

8. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the colloidal particles include colloidal alumina or colloidal silica coated with alumina, and the self-cleaning colloidal slurry composition has a pH of approximately 3.5 to 10.5.

9. (Original) The self-cleaning colloidal slurry composition as recited in claim 4, wherein the colloidal silica particles have a nominal size of approximately 2 - 200 nm.

10. (Original) The self-cleaning colloidal slurry composition as recited in claim 6, wherein the colloidal silica particles include colloidal silica spheres having a nominal size of approximately 7 nm.

11. (Original) The self-cleaning colloidal slurry composition as recited in claim 3, wherein the metal etchant is selected from a group consisting of Ce, Zr, Ti, Fe, Sn, Al, Cr, Ni, Mn and Zn, and combinations thereof, and wherein the metal etchant is present in solution and/or as a colloid and/or as an ion on the colloidal particles.

12. (Original) The self-cleaning colloidal slurry composition as recited in claim 11, wherein the metal etchant is Ce.

13. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the surfactant is a nonionic and/or cationic surfactant selected from a group consisting of oxygen containing compounds and nitrogen containing compounds, and combinations thereof.

14. (Original) The self-cleaning colloidal slurry composition as recited in claim 13, wherein the nonionic surfactant is an oxygen containing compound with moieties of ethylene oxide and/or polyvinyl alcohol.

15. (Original) The self-cleaning colloidal slurry composition as recited in claim 13, wherein the nonionic and/or cationic surfactant is a nitrogen containing compound selected from a group consisting of alkaloids and amines, and combinations thereof.

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16. (Original) The self-cleaning colloidal slurry composition as recited in claim 13, wherein the nonionic and/or cationic surfactant is a polydentate adsorption surfactant.

17. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the surfactant is a cationic surfactant.

18. (Original) The self-cleaning colloidal slurry composition as recited in claim 1, wherein the surfactant is selected from a group consisting of anionic surfactants and quaternary amine surfactants.

35. (Original) A self-cleaning colloidal slurry composition for finishing a surface of a substrate, the self-cleaning colloidal slurry composition comprising:


a carrying fluid;

colloidal particles;

metal etchant for etching the substrate;

a surfactant adsorbed and/or precipitated onto a surface of at least one of the substrate and the colloidal particles, the surfactant having a hydrophobic section that forms a steric hindrance barrier between the substrate and the colloidal particles.

36. (Original) The self-cleaning colloidal slurry composition as recited in claim 35,
wherein the colloidal particles have a nominal size of approximately 70 - 200 nm to provide a
textured surface on the substrate.



Election to Restriction

Applicant elects Group I, claims 1-18, 35, and 36 for further prosecution, and cancels claims 19-34 and 37-39 without prejudice.